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where the diagonal coefficients are all $a_{11} + b_{11}i$, the determinant D would be

$$D = \begin{vmatrix} a_{11} - b_{11} & a_{12} - b_{12} & \cdots & a_{1n} - b_{1n} \\ b_{11} & a_{11} & b_{12} & a_{12} & \cdots & b_{1n} & a_{1n} \\ -a_{12} & b_{12} & a_{11} - b_{11} & \cdots & a_{2n} - b_{2n} \\ -b_{12} & -a_{12} & b_{11} & a_{11} & \cdots & b_{2n} & a_{2n} \\ \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot \\ -a_{1n} & b_{1n} & -a_{2n} & b_{2n} & \cdots & a_{11} - b_{11} \\ -b_{1n} & -a_{1n} & -b_{2n} & -a_{2n} & \cdots & b_{11} & a_{11} \end{vmatrix};$$

or expressed symbolically

$$D = \begin{vmatrix} (A) & (B) & (C) & \cdots \\ (-B) & (A) & (D) & \cdots \\ (-C) & (-D) & (A) & \cdots \\ \cdot & \cdot & \cdot & \ddots \end{vmatrix},$$

the form in question.

By a rearrangement of rows and columns it is readily seen that D may be represented symbolically by

$$\begin{vmatrix} (A') & (B') \\ (-B') & (A') \end{vmatrix}.$$

This is what should be expected since the D for equations (2) is a particular case of the D for equations (1).

If the A, B, C, \dots here are to be of higher order than the second it will be necessary to take equations from algebras of higher order, such as quaternions for the fourth order.

THE MARYLAND-VIRGINIA-DISTRICT OF COLUMBIA SECTION.

The Maryland-Virginia-District of Columbia Section of the Mathematical Association of America held its fall meeting at St. John's College, Annapolis, Md., Saturday, December 15, 1917. Among the thirty-two persons in attendance were the following members of the Association:

- O. S. Adams, U. S. Coast and Geodetic Survey, Washington, D. C.
- J. A. Bullard, U. S. Naval Academy, Annapolis, Md.
- Paul Capron, U. S. Naval Academy, Annapolis, Md.
- G. R. Clements, U. S. Naval Academy, Annapolis, Md.
- A. B. Coble, Johns Hopkins University, Baltimore, Md.
- A. Cohen, Johns Hopkins University, Baltimore, Md.
- J. B. Eppes, U. S. Naval Academy, Annapolis, Md.
- J. N. Galloway, U. S. Naval Academy, Annapolis, Md.
- H. C. Gossard, U. S. Naval Academy, Annapolis, Md.
- Angelo Hall, U. S. Naval Academy, Annapolis, Md.

W. M. Hamilton, Nautical Almanac Office, Washington, D. C.

W. E. Heal, Washington, D. C.

W. W. Johnson, U. S. Naval Academy, Annapolis, Md.

A. E. Landry, Catholic University, Washington, D. C.

Florence P. Lewis, Goucher College, Baltimore, Md.

H. M. Robert, U. S. Naval Academy, Annapolis, Md.

R. E. Root, U. S. Naval Academy, Annapolis, Md.

W. F. Shenton, U. S. Naval Academy, Annapolis, Md.

H. I. Thomsen, Baltimore, Md.

H. R. Tolley, Department of Agriculture, Washington, D. C.

C. E. Van Orstrand, U. S. Geological Survey, Washington, D. C.

The president of the section, Professor Abraham Cohen, occupied the chair at both morning and afternoon sessions, and the following papers were presented:

1. "Report on the 1917 summer meeting of the Association at Cleveland." DR. G. R. CLEMENTS, U. S. Naval Academy.
2. "A method for finding a particular integral for certain linear differential equations." PROFESSOR A. B. COBLE, Johns Hopkins University.
3. "Report on the construction of certain mathematical tables." MR. C. E. VAN ORSTRAND, U. S. Geological Survey.
4. "Geometrical stereograms." DR. W. F. SHENTON, U. S. Naval Academy.
5. "Lambert's conformal conic projection." MR. O. S. ADAMS, U. S. Coast and Geodetic Survey.
6. "An application of Grassmann's Ausdehnungslehre to the theory of invariants." MR. W. E. HEAL, Washington, D. C.
7. "Pseudo-regular polyhedra." PROFESSOR W. W. JOHNSON, U. S. Naval Academy.

A luncheon at the Hotel Maryland, arranged for those attending these sessions, was participated in by twenty-two persons.

RALPH E. ROOT,
Secretary.

BOOK NOTICES.

SEND COMMUNICATIONS ABOUT BOOKS TO W. H. BUSSEY, University of Minnesota.

In 1915 John Wiley and Sons published an *Analytic Geometry* by Professor H. B. Phillips of the Massachusetts Institute of Technology and in 1916 a *Differential Calculus* by the same author. These have been reviewed in this MONTHLY (see Volume 23, page 17 and Volume 24, page 78). The course in mathematics has now been extended by the publishing of an *Integral Calculus* which may be purchased separately or bound with the *Differential Calculus*. It contains answers to problems, a short table of integrals and a table of natural logarithms.

Every mathematician knows that many a problem is hard or easy according